

AN
ACCOUNT
OF
AN OPTHALMIA,
WHICH APPEARED
IN THE SECOND REGIMENT
OF
ARGYLESHERE FENCIBLES,
IN THE MONTHS OF
February, March, & April, 1802:
WITH
SOME OBSERVATIONS ON
THE EGYPTIAN OPTHALMIA.

BY
ARTHUR EDMONDSTON, SURGEON.

Querere Verum.

HOR.

London:

PRINTED FOR J. CALLOW, MEDICAL BOOKSELLER,
CROWN COURT, PRINCE'S STREET, SOHO,
BY W. SMITH, KING STREET, SEVEN DIALS;
AND SOLD BY BELL AND BRADFUTE, EDINBURGH.

1802.

Price One Shilling.

CORRIGENDA.

- Page 8, line 15, *for lid* *read* lids
Page 16, note, *for overcame* *read* overcome
Page 18, note, *for turgescent* *read* turgescence
Page 30, line 13, *for has* *read* have.

THE FOLLOWING MEDICAL BOOKS

ARE LATELY PUBLISHED

By J. CALLOW, BOOKSELLER,

No. 10, CROWN COURT, PRINCES STREET, SOHO,

Who either gives the full Value for

MEDICAL BOOKS

or exchanges them.

- 1 A Sovereign Remedy for the Dropsy, published by particular Desire for public Benefit, *third edition*, 6d
- 2 Buchan (A. P.) Enchiridion Syphiliticum, or Directions for Venereal Patients, *sewed*, 2s 6d
- 3 Blair's Essays on the Antivenereal Effects of Nitrous Acid and other Analogous Remedies; exhibiting a summary of the Evidence adduced by various Practitioners, with more than Sixty-original Cases, vol. 1, *boards*, 4s 6d. 8vo.
- 4 Blair's Essays, containing the Result of several Hundred additional Trials, accompanied with Critical and Practical Remarks, vol. 2, *boards*, 6s, 8vo.
- 5 Bliss's Experiments and Observations on the Medicinal Waters of Hampstead and Kilburn, *sewed*, 2s
- 6 Compendium of Anatomy for Students in Surgery, and the Arts of Designing, Painting, illustrated by 12 plates, &c. *sewed*, 2s 6d
- 7 Clutterbuck of a new and Successful Method of treating those Affections which arise from the Poison of Lead, *sewed*, 2s
- 8 Clutterbuck's Remarks on some of the Opinions of the John Hunter, respecting the Venereal Disease, in a Letter to Joseph Adams, M. D. *sewed*, 1s 6d
- 9 Clarke's Medicinæ Præxeos Compendium Symptomata, Causas Diagnosin, Prognosin, &c. Exhibens, *sewed*, 5s, 12mo.
- 10 Chevallier's Introduction to a Course of Lectures on the Operations of Surgery, 2s
- 11 Dufour's Treatise on the Urinary Canal, particularly describing the various Symptoms attending Strictures, Obstructions, Gleets, &c. and on the Prevention of the Stone and Gravel, with a Variety of Cases, tending

- to shew the Efficacy of Daran's medicated Bougies, and a new Method of treating a Gonorrhœa, &c. 2s 6d
- 12 Formulæ Medicamentorum Selectæ, 12mo, *sewed*, 1s 6d
- 13 Griffith's Practical Observations on the Cure of Hectic and Slow Fevers and the Pulmonary Consumption; to which is added a Method of treating several Kinds of Internal Hæmorrhages, *a new edition*, *sewed*, 1s 6d
- 14 Gibbon's Medical Cases and Remarks, Part I. on the good Effects of Salivation in Jaundice, arising from Calculi. Part II. on the free Use of Nitre in Hæmorrhages, *bds.* 3s, 8vo.
- 15 Hooper's Anatomist's Vade Mecum, containing the Anatomy and Physiology of the Human Body. To which is added, an Explanation of Terms by Dr. Hooper, 7s, 12mo.
- 16 Hamilton's Observations on Scrophulous Affections, with Remarks on Schirrus Cancer and Rachitis, *boards*, 3s
- 17 Howard's Supplement to Practical Observations on the Natural History and Cure of Lues Venerea, *sewed*, 2s
- 18 Hooper's Compendious Medical Dictionary, containing an Explanation of the Terms in Anatomy, Physiology, Surgery, Physic, Materia Medica, Chemistry, &c. *boards*, 7s, 12mo
- 19 Lane's Principles of English Farriery Vindicated, containing Strictures on the erroneous and long-exploded System, lately revived at the Veterinary College, interspersed with cursory Remarks on the Systems of Solleysell, De Saunier, De la Fosse, &c. *sewed*, 4s
- 20 London Medical Review and Magazine, by a Society of Physicians and Surgeons, containing a critical Analysis of new Publications, in various Languages, on the different Branches of Physic, Surgery, and Medical Philosophy; with numerous Articles of original Correspondence: intended to exhibit the progressive Improvements, Discoveries, Innovations, and remarkable Occurrences, in the several Departments of the Profession, both foreign and domestic, occasionally illustrated by Engravings, 37 Numbers, at 2s each
 N. B. The above is published Monthly.
- 21 Medical Facts and Observations, volume 8, *boards*, 4s 6d
- 22 Moore's Dissertation on the Process and Nature in the filling up of Cavities, healing Wounds, and restoring Parts which have been destroyed, in the Human Body, 2s, 4to.
- 23 Menzies's Dissertation on Respiration, translated from the Latin, with Notes by Charles Sugrue, *sewed*, 2s
- 24 Mathews on Hepatic Diseases incidental to Europeans in the East Indies, *boards*, 4s
- 25 Medical and Physical Journal, by Drs. Bradley, Batty, and Noehden, containing the original Correspondence of eminent Practitioners, and the earliest information on

the Subjects of Medicine, Surgery, Chemistry, Pharmacy, Botany, and Natural History, 37 Numbers, at 2s 6d each

N. B. The above is published Monthly.

- 26 New Inventions and Directions for Ruptured Persons, teaching them the Art of effectually keeping up Inguinal and Scrotal Ruptures, by W. H. T. Esq. 2d Edition, with Additions, *sewed*, 2s
- 27 Pargeter's Observations on Maniacal Disorders, *sewed*, 2s
- 28 Practical Economy, or a Proposal for enabling the Poor to provide for themselves, with Remarks on the Establishment of Soup Houses, and an Investigation of the real Cause of the present extravagant Consumption of fine wheaten Bread by the People of this Country, by Dr. A. P. Buchan, *sewed*, 2s 6d
- 29 Plenck's Hygrology, or Chemico Physiological Doctrine of the Fluids of the Human Body, translated by Dr. Hooper, *boards*, 5s
- 30 Pole's Anatomical Instructor, or an Illustration of the modern and most approved Method, of preparing and preserving the different Parts of the Human Body, and of Quadrupeds, with plates, *boards*, 8s
- 31 Paytherus's Comparative Statement of Facts and Observations relative to the Cow Pox, *with an elegant Engraving, coloured from Nature, sewed*, 5s, 4to.
- 32 Pearson's Observations on the Effects of various Articles of the Materia Medica, in the Cure of the Lues Venerea, illustrated with Cases, *boards*, 4s 6d, 8vo.
- 33 Pearson's Practical Observations on Cancerous Complaints, with an Account of some Diseases which have been confounded with the Cancer, also Critical Remarks on some of the Operations performed in Cancerous Cases, *sewed*, 2s 6d, 8vo.
- 34 Pears Cases of Phthisis Pulmonalis, successfully treated upon the Tonic Plan, with introductory Observations, *sewed*, 2s 6d
- 35 Stenography, or the Art of Short-hand Perfected, containing Rules and Instructions whereby the most illiterate may acquire the Mode of taking down Trials, Orations, Lectures, &c. in a few Hours, and be competent, by a little Experience, to practise the same, *new, sewed*, 2s 6d
- 36 Sawrey's Inquiry into some of the Effects of the *Venereal Poison* on the Human Body: with an Occasional Application of Physiology, Observations on some of the Opinions of Mr. John Hunter and Benj. Bell, *bds.* 5s, 8vo.
- 37 Thompson's (Anthony Todd) Essay on the General Study of Experimental Philosophy, and the Utility of Chemistry, introductory to a Course of Lectures on the Philosophy of Chemistry, and the Connexion of that Science with the Arts, and the other Sciences, *sewed*, 1s 6d

- 38 Wilson on Febrile Diseases, including Intermitting, Remitting, and Continued Fevers; Eruptive Fevers; Inflammations; Hæmorrhagies; and the Profluvia; in which an Attempt is made to present, at one View, whatever, in the present State of Medicine, is requisite for the Physician to know respecting the Symptoms, Causes and Cure of those Diseases, 2 vol. boards, 18s
- 39 Wilson on Febrile Diseases, including the Intermitting, Remitting, and Continued Fevers; Eruptive Fevers; Inflammations; Hæmorrhages; and the Profluvia: vol. 3, boards, 9s
- 40 Whateley's Practical Observations on the Cure of the Gonorrhœa Virulenta in Men, 2s 6d
- 41 Whateley's Observations on Mr. Home's Treatment of Strictures in the Urethra, with an improved Method of treating certain Cases of those Diseases, 2s 6d
- 42 Whateley's Practical Observations on the Cure of Wounds and Ulcers on the Legs without Rest; illustrated with Cases, boards, 7s

Just Published,

CALLOW's NEW CATALOGUE
for 1802,

of a large and valuable

COLLECTION of BOOKS,

Including several choice Collections recently purchased, on **Medicine, Surgery, Anatomy, Chemistry, Botany, &c. &c. &c.** comprehending a curious Collection on **ALCHYMY, MAGIC, &c.** in various Languages: with many rare and curious **Second-Hand Books;** also a Variety of **Manuscripts,** and an extensive Assortment of the best and most esteemed **Modern Publications**—the Whole are in good Condition, a great Part in a Variety of plain and elegant Bindings.

To be Sold for ready Money, (at the Prices printed in the Catalogue).

N.B. Book-Binding in all its Branches on the most reasonable Terms.

HISTORY

OR

THE DISEASE.

THE second regiment of Argyleshire Fencibles embarked on the 29th of January, 1802, at Gibraltar, on board the Delft troop ship, of sixty-eight guns, in a healthy state. The Delft had been employed in the Egyptian expedition, and was considered as an unhealthy ship, both in her passage to Egypt, and in her return from it. She brought down to Gibraltar a part of the Guards, who on their arrival there, were put on board other ships, on account of the sickly state of the Delft. The prevailing diseases were fever and ophthalmia. During the time the Delft remained at Gibraltar, a period of two months, she was frequently washed and fumigated, and every means employed that

B

could render her fit for the reception of troops; so that at the embarkation of the Argyleshire regiment, with the exception of one of the lieutenants, who had lost the sight of an eye in Egypt from ophthalmia, and then laboured under the disease, both the officers and crew might be considered in a state of perfect health. The bedding delivered out was new, but the hammocks, except a few appropriated for the use of the sick, had all been occupied by the Guards.

The ship sailed two days after the embarkation of the regiment; and after an agreeable passage of twenty-one days, arrived at Spithead on the 21st of February following. She was then put under quarantine, and the regiment did not disembark till the 28th, when it marched to Hilsea barracks.

One case of ophthalmia occurred ten days, and six other cases seven days before the disembarkation. The patients could assign no evident cause for the attacks. The invasion was sudden, and the progress of the inflammation rapid. A few slight cases of fever also made their appearance.

The men were very much crowded; and from want of attention in caulking the gun ports of the ship, the water came freely in

at times on the lower deck where they lay; which, notwithstanding every attempt to keep it dry, was frequently wet. It may be worth while to mention, that in two companies stationed in the center of the ship, where the water had the freest access, the disease which afterwards broke out, although it did not occur in the first instance, yet was immediately afterwards more rapid in its progress, and more widely extended in one of them than in any other company in the regiment; while in the other opposite to it, and placed under similar circumstances, nothing particular occurred.

The regiment remained at Hilsea ten days, and during this period, twenty-one new cases appeared. The symptoms were the same, as in those that had occurred on board of ship. At this time orders were received to proceed to Colchester, a distance of about 120 miles, and which was accomplished in eleven days. The regiment marched in three divisions. I was attached to the first division, and the assistant surgeon Mr. Westbury to the last division, dividing the sick between us. Four new cases only occurred on the road, and these in the last division; and Mr. Westbury, on whose accuracy I could rely,

informed me that the symptoms were comparatively mild, and that those he brought from Hilsea, had perfectly recovered. This coincided with what had occurred in my division.

Three days after our arrival at Colchester, the disease recurred, and with increased violence. The symptoms, and sudden mode of attack were the same, but the inflammation was greater, and the cure more difficult. The simple inspection of the eye of a person labouring under the disease, was sufficient to produce it in another. Several curious and unequivocal instances of this kind occurred.* At Colchester we were provided

* One in particular deserves to be mentioned. Two serjeants came one day together to the hospital, complaining of sore eyes. One of these had been affected, three hours, before application for medical assistance, and one hour before presenting himself at the hospital he had requested his friend to look at his eye. The other complied, and declared to me that during the time he was looking at the eye of his comrade, he felt a pain in his own. Although only one hour had elapsed from the period of the first sensation, the tunica adnata was covered with blood, and the watery effusion had taken place.

Men in perfect health, sleeping in the same bed with others under the influence of the disease, were generally affected in a similar manner the next morning.

with an excellent hospital, and every necessary accommodation procured. Seventy-five cases occurred while here, and when the disease was beginning to abate, a new order arrived for the regiment to march to Norman Cross, a distance of about seventy-four miles. The arrangements respecting the march were nearly the same as before, and although several of the men had their eyes in a weak irritable state, none were left behind. They were all provided with green shades tied to their caps, which completely protected the eye from the sun's rays ; and each was furnished with a quantity of sugar of lead, and directions how to use it.

On the first and second days of the march, all the affected complained that their eyes were worse; but fomentation, with a luke-warm solution of sugar of lead, and a poultice at bed time produced considerable relief, and on the third and remaining days of the march, the whole, without any exception, began to get better. Twelve new cases occurred on the road, but were affected in a slight degree, so much so, that several of them recovered without the aid of any remedy.

The energy of the cause, since arriving at Norman Cross, seems somewhat impaired. The inflammation is not so violent, nor so rapid in its progress, and the cure in general is more easily effected, so that at length I begin to entertain the hope, that the period is not far distant when the regiment shall be relieved from this troublesome complaint.

TABLE

shewing the daily progress of the Ophthalmia,
since leaving Gibraltar, with the dates and
the places of attack.

The Number of Cases	Total.			Total.
	At Norman Cross.	On the March to N. Gross.	At Colchester.	
1802.				
February				
18	1	1		69
22	3	3		5
24	2	2		4
25	1	1		6
27	2	2		3
March				
3				5
4				2
5				2
6				2
7				4
8				3
14				2
16				1
18				2
23				4
24				1
26				4
27				2
28				2
29				6
30				2
31				6
				133
	921	435	69	
		Brought over April		
		1		
		2		
		3		
		4		
		5		
		6		
		7		
		8		
		9		
		10		
		11		
		13		
		14		
		15		
		16		
		20		
		21		
		22		
		23		
		24		
		921	475	1212

SYMPTOMS.

The symptoms were few, and strongly marked, sudden in the invasion, and rapid in their progress, beginning generally at night or towards morning, without the slightest preceding uneasiness; often when the individuals were on duty, or engaged in amusement. The patient felt all at once, as if something was rolling over the ball of the eye, which he in vain attempted to remove, attended with a troublesome sense of itching. This was immediately succeeded by a copious discharge of a watery fluid, so acrid as to scald those parts of the face over which it flowed; and which from its quantity so distended the eye-lid, particularly during the night time, as not to admit of their being opened, but with the greatest difficulty. If the eye was now looked into, the whole tunica adnata appeared of a florid scarlet colour; and even at this early period of the disease, in a few instances, was interspersed with small circumscribed spots of extravasated blood. The eye-lids were of a deep red colour, and often so much swelled as to preclude the free examination of the eye. In the course of one day, frequently

in the space of two hours, a discharge of a purulent like matter took place; small elevations of a yellow colour began to appear on the opaque cornea, and the eyelids were thickened and of a spongy texture; the pain was exquisitely acute, and the slightest admission of light always considerably increased it.

In this way the disease went on with various duration; but generally about the morning of the third day the inflammation had attained its acmè, constituting what may be called the first stage of the disease. The keen acute pain now in a great measure subsided, while a sense of weight and heaviness succeeded, attended with a peculiar sensation of weakness, though not of pain, on any exposure to light. The watery effusion was diminished, but the purulent discharge was more copious, and became of a thicker consistence. The redness, swelling, tension, and pain, gradually became less, and in the course of eight or nine days from the first attack, the patient generally recovered; but a certain weakness of sight remained for some time afterwards.

But when the disease passed the usual period of decline, and the inflammation

went on increasing, the eye and its coverings were more deeply affected. Ulceration took place from the surfaces of both eyelids, and the tension and tumefaction were so great, as to keep the eye shut for several days; and when from the effect of emollient applications, the patient was enabled to separate the eye-lids, the latter appeared to be glued to the ball of the eye; and in this manner it appears those preternatural adhesions are formed, which frequently terminate in the loss of sight.

Every symptom was uniformly aggravated towards evening, and remitted in the morning, forming a regular exacerbation.

The system did not appear, from the feelings of the patient, in any instance to be primarily affected; and his first information of its existence, was the sensation of something like a foreign body in the eye. But when the attack occurred in the night time, his sleep was disturbed; and head-ach, a white furred tongue, with occasional increase in the frequency of the pulse, were generally present from the commencement, and indicated a constitutional affection, too inconsiderable perhaps at first to excite his attention. In the second stage however, and when the

inflammation was high, the head-ach and general irritability of the system were such, as to oblige the patient to confine himself to bed.

Both eyes were seldom affected at the same time. The disease usually began in one eye, and after continuing a short time, passed to the other. In a few instances it was confined entirely to one eye; but this more frequently took place, when the inflammation had been pretty smart for a few days in the eye first affected: but if it suddenly ceased in one, it invariably attacked the other. In a few cases the eye-lids were the chief seat of the disease—when this was the case it was comparatively mild, and admitted of easy removal.

The duration of the disease seemed in a great measure to depend on the nature of the inflammation. Whenever it was rapid in its progress, and the colour of the vessels florid, the cure was easily effected. But when it came on slowly, and proceeded in a gradual manner, which occurred chiefly in phlegmatic habits, the treatment was tedious and uncertain; and it was in cases of this kind, that ulceration of the eye-lids most usually occurred.

Relapse was a frequent occurrence; and induced by the slightest irregularity. In these instances the former train of symptoms were renewed, but with diminished energy, and were of shorter duration. The succeeding debility was great, and the pain and irritability of the eye much increased.

Although this ophthalmia has been very general, and peculiarly violent in several instances, it has not as yet, been fatal to the sight of a single individual in the regiment. There is only one case at present, wherein ulceration of the eye-lids exists. It has been of longer duration than any other, and partial adhesions of the eye-lids to the ball have taken place; but as the patient is now in a situation where every care can be taken of him, and as he has youth on his side, I have every just reason to hope, that his disease will have a favourable termination.

METHOD OF CURE.

As the most urgent symptom of the disease was acute local inflammation, the most obvious plan of cure was to diminish the blood in the vessels of the part. This was most effectually done by scarifying, with the shoulder of a lancet, the vessels on the globe of the eye itself, and bathing it in luke-warm water, so as to obtain a plentiful discharge of blood: and wherever this was early had recourse to, and repeated while the inflammation was purely active, it never failed to produce immediate relief. Indeed so convinced were the soldiers of its beneficial effects, that notwithstanding the exquisite pain attendant on the operation, they voluntarily returned and requested a repetition of it. When however it had been neglected, or delayed till the vessels were gorged with blood, and their tone impaired, it was as invariably injurious. And the difficulty of making a nice discrimination in this respect, appears to me one great reason why so many of the army medical gentlemen from Egypt reprobate its use. The invasion is so sudden, and the progress of the inflammation so un-

commonly rapid, often going the length of suppuration in the space of an hour, that the surgeon has seldom the opportunity of seeing the disease at its commencement; and even when he does see it, it is not always an easy matter to ascertain with accuracy, the actual degree of inflammation existing. But as the serous effusion, suppuration, and occasional ulceration that take place, are so many leading and indubitable proofs of proceeding inflammation, no doubt can exist as to the propriety of topical blood-letting in the early stages of the disease, as the best and most effectual means of averting these consequences: and I have observed, from experience, that when the vessels on the conjunctiva appear round, small, and of a florid colour; when the patient complains of intolerance of light, and acute pain in the globe of the eye; and before the purulent discharge has come on, scarification is safe and beneficial. But where the vessels have a purplish hue, appear much dilated, and the patient complains of a sense of weight and fulness, even although no purulent discharge has taken place, that the same remedy is hurtful, and instead of advancing, ma-

terially retards the cure.* In the former instance, the vessels are in a state of preternatural excitement, from the influx of a greater proportion of blood than they can well transmit. The lessening this quantity by dividing them, relieves, and saves the further expenditure of their irritability. In the latter case, the excitement has continued till nearly the whole of the irritability had been expended; while the force of the larger trunks being but little affected, unusual dilatation or rupture ensue. Here the arterial energy is nearly gone, and instead of debilitating remedies, it requires a nice adaptation of stimuli to restore the vessels to their proper tone.

General blood-letting did not seem to produce any decided effects. A man at the commencement of ophthalmia received an injury on the side, for which it was necessary to bleed him freely. The ophthalmia went on

* Perhaps this observation is not literally applicable to those species of ophthalmia that usually occur in Great Britain. In these cases the inflammation is more gradual in its progress, and the irritability of the organ longer preserved, so that scarification may be beneficially employed at a considerably later period than here prescribed.

as usual, and was removed by local remedies. This was the only instance in which it was tried; and indeed where topical bleeding could be so easily and so advantageously employed, it entirely superceded the use of the other.*

Immediately after the scarification different collyria were employed, chiefly solutions of the acetates of lead and zinc; and these after repeated trials were found most effectual when used in the tepid state. Even the fomenting the eye with luke-warm milk and water, relieved the pain and diminished the swelling. I have frequently observed, that the preparations of lead and zinc, generally denominated sedative applications, when employed with the view of removing inflammation in membranous parts, are most beneficial when used luke-warm. In these cases there is little tendency to suppuration; irritation is the prevailing symptom, and

* It has been recommended to open the temporal artery in cases of violent ophthalmia, and the practice is rational: leeches applied to the eye-lids and part adjoining are productive of the best effects. But scarification was preferred to either, as being more immediately topical, and where the prejudices of the patient were so easily overcame, it anticipated the use of any other.

this is relieved by the relaxing powers of heat. In the more advanced stages of the disease, and where great local debility prevailed, a cold solution of the sulphate of zinc appeared to be useful.

When the inflammation had subsided, and the swelling, attended with pain, still remained, an emollient poultice applied to the eyes at bed-time, was productive of the best effects. It often diminished the swelling, and completely removed the pain in the course of one night, so that the patient could open his eyes with ease the next morning. At the commencement of the disease, it was found inadmissible, on account of its weight.

Cathartics were also employed; but at the beginning, without any apparent good effect. In the second stage of the disease smart doses of calomel were useful, and they seemed to operate on the system, by their general stimulating effect, tending to absorption.

Blisters applied to the forehead and temples, were found peculiarly beneficial in the second stage of the disease. They invariably relieved the head-ach, and by their external irritation, took off the determination to the

eye. But if employed at the commencement, they were as certainly hurtful.

If a general objection has been entertained against scarification in the treatment of the Egyptian ophthalmia, the use of blisters has been no less generally adopted; and this appears to me a corroborating proof of the benefit resulting from early scarification. We never recommend blisters at the commencement of inflammation in superficial parts of the body, when a resolution of the tumour is the object in view, because they tend to produce a rapid suppuration. They may however be employed in cases of recent and deep seated inflammation; but then the intention is to change the action in the vessels of the part, by exciting inflammation in an adjoining part. But when inflammation has continued long in any organ, and it is left in a weak irritable state, a blister applied to the spot itself, is frequently the best remedy that can be employed.

In those cases of what might be called passive* inflammation, attended with pain

* By passive inflammation in contradistinction to active inflammation, is meant that diminished state of the irritability of the vessels of an inflamed part, in consequence of previous excitement marked by turgescence pain and debility.

and extreme weakness of sight, a drop of a watery solution of opium allowed to glide over the eye, seldom failed of affording relief; and where the tone of the vessels was more deeply impaired, a drop of the tincture of opium applied in the same way produced the best effects. But in no part of the cure did there seem greater necessity for attention than here, for the slightest excess never failed to renew the inflammation it was meant to remove.

When the eye had a livid appearance, with no marks of active inflammation, and the patient complained of a slight degree of pain, a drop or two of a watery solution of opium, generally gave immediate relief, and the eye was much stronger next morning. But in so delicate a state was the irritability of this organ, that a repetition of the application was not safe till the second day after.

When the livid appearance still continued, and in a few instances, where the watery solution hardly produced any sensible effect, the common tincture of opium was employed with advantage. It produced a temporary smarting sensation, succeeded by a glow of heat, and agreeable remission of

the pain; but it was seldom safe to repeat it within a shorter interval than two days.*

An opiate was occasionally given at bed-time, when any general irritability of the system prevailed, and always with advantage. Except the corrosive muriate of mercury, this was the only remedy employed with the view of acting on the system at large.

The above remedies have hitherto proved sufficient for the removal of almost every case that has occurred. Where great local debility prevails, perhaps electricity may be useful.

* It may also be observed, that in the ordinary ophthalmia, the same delicacy with regard to the use of the tincture of opium, is not necessary, and for the reason already assigned.

CAUSES.

The symptoms of almost any disease, from their being obvious to our senses, are easily observed, and can be accurately detailed; but to assign causes adequate to their production, requires an intimate knowledge of the functions of the animal œconomy, and of the agents, both external and internal, which affect it. Modern physiology has done much towards explaining the laws of animal life; and the changes which take place in the system in the different states of health and disease, are more accurately known, and better explained now, than formerly; for physicians have ceased to refer phenomena to the agency of imaginary principles, and begin to admit such explanations only, as are supported by experience, or can be inferred from a simple and natural analogy. Yet if we lay aside the pride of opinion, and confine ourselves to those opinions only, which admit of a positive demonstration, we shall find that our acquaintance with the nature of causes affecting the body, and the mode of operation of agents employed as remedies in diseases,

is limited and imperfect, and often, conjectural.

Ophthalmia has been almost universally considered as a local affection, produced by causes sufficiently obvious; and where it has appeared constitutional, it has been in consequence of some other primary disease, equally satisfactorily ascertained.* In the ophthalmia that occurred in the second Argyleshire Fencibles, no systematic disease existed; and it will appear after a review of the exciting causes that could be supposed to operate on its production, whether or not they are adequate to account for the phenomena.

Cold and moisture no doubt have considerable effect in producing inflammation of the eyes, but their operation ceases when the powers themselves are withdrawn. Nor have they always this effect, and their operation is so purely mechanical, that we should naturally expect some proportion to exist between the effect, and the force and continuance of the cause. The same regiment

* In scarcely no instance has it been supposed capable of propagating itself, when once produced; and the few anomalous instances of this kind which have been noticed have been referred to the influence of imagination or imitation.

two years before, on its passage to Gibraltar, was subjected in an equal manner, and for a longer period, to the influence of this cause, but not a single case of ophthalmia occurred. On its arrival at Gibraltar, the great heat of the sun, and reflection from the rock, were sufficiently strong exciting causes to have called forth any predisposition, had such existed, but no disease of this kind appeared. During its stay there, occasional cases of ophthalmia occurred, but they could in general be traced to their source, and vanished with their causes.

The crowded state of the ship, occasional fumigations with gun powder, and continual smoking of tobacco, are so many reputable exciting causes of ophthalmia. But these had all existed on former occasions, under similar circumstances, in greater degrees, and for longer periods, without being followed by any such effect.

Brisk winds and the dust of roads are enumerated, and deservedly so, by every writer on the subject, as exciting causes of ophthalmia; but their effect is temporary, and ceases with their removal. Hence neither cold nor moisture, acrid fumes, nor dust and wind, have always the power of producing

inflammation of the eyes, even when applied for a considerable length of time, and appear therefore insufficient to account for the production of a disease which so rapidly and widely extended itself, and which raged with its greatest violence at a time, when these causes did not exist, and when therefore they could not be supposed to have any effect in producing it.

Reflecting on these circumstances, I was led to suppose, that the present ophthalmia might be occasioned by contagion imported from Egypt, and several collateral facts have confirmed me in this opinion.*

This very disease which raged in Egypt, and was fatal to the sight of so many, had existed on board the Delft for a considerable time, and in an extensive manner, and did

* In conversations which I have had with several medical gentlemen from Egypt, they all agree that the ophthalmia which prevailed there, was uncommonly sudden in its invasion, commencing with the sensation of a foreign body in the eye, and often proceeding the length of suppuration in the space of an hour, exhibiting symptoms of the highest inflammation, and attended with the most exquisite pain; that in the cure they generally found scarification hurtful, and that blisters to the temples, saturnine lotions, and mercurial purges, were the chief remedies employed for its removal.

at this time actually exist in the person of one of the Lieutenants of the ship. The soldiers of the Argyleshire regiment slept in the same hammocks, which had been occupied by the guards, among whom the disease had prevailed. Here there were two sources of infection continually applied; the human body actually under the influence of disease, and the no less concentrated state of fomes in the bedding; and when we consider the numerous instances on record, of contagion, producing diseases after a long period had elapsed from their exhibiting any sensible effects, the two months which the Delft remained at Gibraltar, and the repeated fumigations she underwent, will hardly be deemed sufficient to destroy the influence of so subtle and penetrating an agent.*

* Almost every disease must have been originally produced by external causes; but when once it exists, there seems no impropriety in supposing it to possess the power of propagating itself. And although it be granted that ophthalmia is endemic in Egypt, yet it may be contagious with respect to the inhabitants of other countries; and perhaps one reason why ophthalmia has not appeared directly contagious in Britain, is, that its exciting causes are not sufficiently general and permanent to produce a range of disease adequate to the effect.

The Middlesex Militia lay at Colchester the same time with the Argyleshire regiment, and both left the barracks on the same day. As they marched out, I discovered one of their soldiers apparently blind. Both eyes were greatly inflamed, and swelled in a prodigious manner. He told me that three days before, his eyes became suddenly sore, and that on looking into a glass, he was astonished to see them covered with blood. On my enquiring whether he could assign any cause for his complaint, he said he could not, but supposed it to be the same as the Argyleshire laboured under: and added, that a comrade of his had been affected in a similar manner, though not in so severe a degree: The appearance of the eyes of this man was exactly the same, as in the other cases, which had fallen under my observation, and his account of the progress of the symptoms is stated without any exaggeration; but I have not been able to learn the event of the case, or whether the disease was extended to others.

But in regiments placed under similar circumstances with the Argyleshire, and exposed to what may be called the primary sources of the disease, the result has been

uniformly the same. By a letter received from Mr. Robinson, the assistant surgeon of the Banffshire Fencibles, on this subject, I am informed that the ophthalmia prevailed very generally in that regiment, several weeks before its departure from Gibraltar. He thinks the infection was received from the eighth regiment, which had many ill of this complaint when it arrived from Egypt. He says, the invasion was sudden, and the inflammation, if by any accident it was neglected for a day, increased with uncommon rapidity; that most of the cases yielded to smart doses of calomel at night, and salts next day; and except in a few instances, where he had recourse to blisters on the temples, these were the only remedies necessary for their cure.

This account perfectly coincides with the history of the preceding ophthalmia, with this difference, that it seems to have appeared under a milder form in the Banffshire, than took place in the other regiment.*

* And which perhaps is owing to the circumstance of the Argyleshire regiment having been exposed to the effects of debilitating powers, before the operation of the contagion. Both however agree in their affinity to the Egyptian ophthalmia, and making allowances for the

It is not always an easy matter to demonstrate separate existences, and the word contagion is often looked upon, as another expression for ignorance. But although chemistry has never been able to unfold its constituent principles, or render it expressly an object of our senses, its effects on the human body are sufficiently well known, to admit of its being reasoned upon in the aggregate. Its evolution and production are almost demonstrated in the case of typhus fever. When a number of people are confined in a small circumscribed space, as occurs in jails, or crowded ships, deprived of the advantage of a free circulation of air, and the comfort of daily cleanliness, and living perhaps on a faulty diet—We observe the countenance lose its healthy aspect, the appetite fails, sleep is imperfect, and does not refresh, the muscular

diminished energy of the cause, the symptoms were exactly the same. I have been since informed, that in other regiments composing the garrison of Gibraltar, and placed under circumstances similar to those of the two already mentioned, ophthalmia has appeared under the same form. But as my information on this head is not fully confirmed, I forbear, at present, to draw any inference from it.

organs are affected with the greatest debility, and the sensorial functions deranged; in short, we see exhibited all the symptoms of a typhus fever. A body under these circumstances emits a peculiar kind of exhalation, often perceptible to the organ of smell, which possess the property of producing the same train of morbid motions in another body, if brought within the sphere of its action, or having been in contact with any substance on which some of this noxious matter had been deposited.

Diseases contracted in this way are said to be contagious. Some require absolute contact to produce the effect, while in others, it is only necessary to breathe the atmosphere of the same room with the person under disease. But even in the most malignant cases, the sphere of action does not extend beyond a few feet from the source.

If left to nature, they exhibit certain regular periods of rise and decline, and in these instances they seem to follow unequal periods. But if interrupted by art, these catenations of motions are broken, new associations are formed, and these changes cannot therefore be ascertained with any degree of accuracy.

Contagion, like every other material substance, is susceptible of partial accumulation and diminution, and produces its effects according to the degree of force in which it exists. Every circumstance which prevents its free diffusion in the atmosphere, such as the crowded state of ships and jails, favours its accumulation, and aids its operation.

In most instances it seems necessary for producing its full effects, that the body should be predisposed by debilitating powers, or in other words, that causes which tend to affect its irritability has operated.

These are a few of the leading laws of all contagious diseases, and although the circumstances antecedent to, and attendant on ophthalmia, are not so strongly marked as occur in typhus fever, we are not from that to infer that it is not contagious; for the operation of the contagion of the small pox and measles, is of a nature still more mysterious, yet it has never been said, that these diseases were not communicable by infection.

The present ophthalmia, in its origin and progress, exhibits a striking coincidence with other contagious affections.

A certain period elapsed before it made its appearance, and it occurred almost entirely among the soldiers, whose confined situation, and impure air, materially affected the irritability of their systems, rendering them more easily affected by any noxious power. None of the officers, except myself, were seized with it, for I impressed early on their minds, its infectious nature, and they carefully guarded against any intercourse that might produce it: and the circumstances attending my attack, afford perhaps, another proof of its contagious nature. Medical men, from their hourly communication with every kind of disease, acquire a kind of incapability of being affected by any; but if they intermit their professional labours for a time, they are equally liable with others. I happened to be absent from the regiment a few days, when the disease was at its height. On my return I was anxious to see the progress of the different cases, and was perhaps too minute in my examination. That same day I felt the sensation of a foreign body in the eye, the tunica adnata was inflamed, and a discharge of a watery fluid took place. But the assistant surgeon, who remained with the regiment

during the whole of the time, entirely escaped.

Sleeping in the same room, or looking into the eye of a person labouring under the disease, were sufficient to produce it in another person.

The evening exacerbation and morning remission, partake of the general nature of febrile disease; and the head ach, restlessness, white tongue, and irregularity of the vascular action, are proofs that it existed.

The third day was usually the period of change; but as recourse was early had to medical assistance, the different gradations were less distinctly perceptible.

The march from Portsmouth to Colchester in some measure arrested, although it could not destroy the power of the contagion. Novelty of scenery, and changes of situation, produce similar effects on the hooping-cough, small-pox, and other contagious diseases.*

I have thus endeavoured to shew, that the ophthalmia, which prevailed in the Argyleshire Regiment, was occasioned by the

* The march to Norman Cross had a similar effect, but as the disease had existed for a longer period, and individual cases were worse, exposure to exciting causes naturally aggravated the symptoms.

operation of a specific contagion, imported from Egypt. This is inferred from the symptoms of both diseases corresponding in every respect: from the insufficiency of other causes to account for the phenomena: from the circumstance of those afflicted with it, having slept in the same beds, as those in whom the disease existed had previously occupied: from the same uniform effects having taken place in other regiments under similar circumstances: and lastly, from the analogy it bears to other contagious diseases.

Although the knowledge of any cause, acting generally on the system, does not materially affect the method of cure, when disease actually exists; yet the adoption of the opinion, that the Egyptian ophthalmia is infectious, may have its use. It may lead to the prosecution of measures, which experience has shewn to have effect in diminishing, if not eradicating other contagious affections; and nothing ought to be omitted, which has for its object, the removal of a cause, which tends to the destruction of an organ, from which we derive such extended and varied enjoyment.

FINIS.

Also may be had of J. CALLOW, price 1s. 6d.

AN ESSAY
ON THE
GENERAL STUDY OF EXPERIMENTAL PHILOSOPHY,
AND THE
PRINCIPLES OF CHEMISTRY
BY
ANTHONY TODD THOMSON, Surgeon,
LONDON.